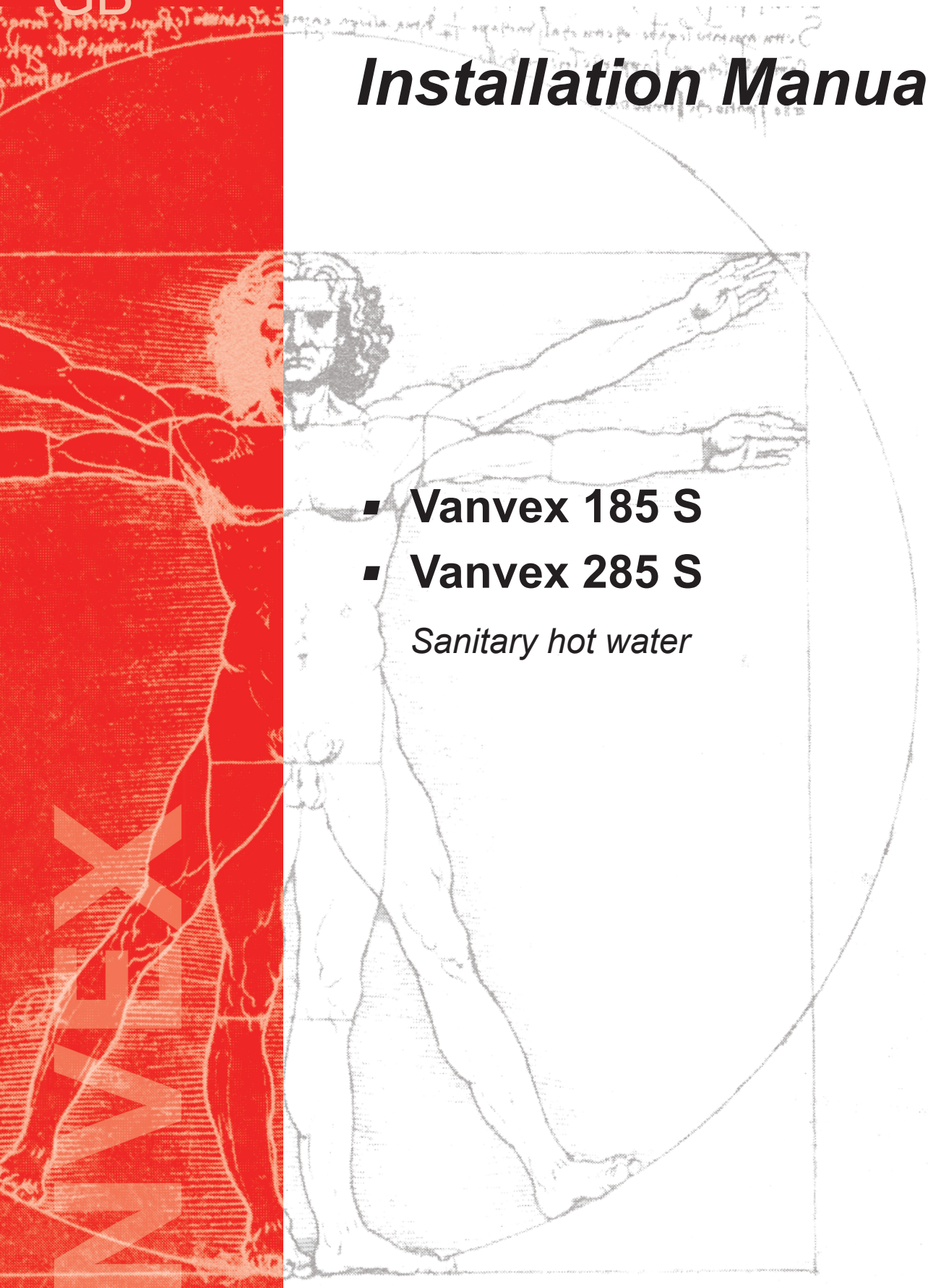
GB

Installation Manual



- **Vanvex 185 S**
- **Vanvex 285 S**

Sanitary hot water

GENVEX

Version 1.03 - 0410

Genvex®

Table of contents

1.1 Cooling system 3

1.2 Electrical circuit 3

1.3 Water circuit 3

2.1 Deliverance 4

2.2 Transport 4

2.3 Installing 4

2.4 Connection of water pipes 5

2.5 Connecting condense water drain 6

2.6 Electrical connection 7

2.7 Air connections 7

3.1 Demands to the hot water circuit 8

3.2 Starting to use of the water circuit 8

3.3 Heat exchanger operation 8

3.4 Hints to energy savings 9

3.5 Hints to fan operation 9

3.6 Checking 9

Subject to Technical Modifications

1. Demands / Security advices Generally

When construction and building the heat pump all relevant EU guidelines have been followed. (Also se EU-declaration of conformity)

Any work carried out on this unit may only be done by skilled personnel. Take all necessary precautions to avoid accidents.

1.1 Cooling system

The skilled technician must make sure that all refrigerant carrying parts are emptied to a level where work may be carried out without any risk to people or materials, before repairs and services are carried out.

When repairing and servicing the heat pump in which the refrigerant system has to be opened, always take extra care. If the use of an open flame is needed, (Welding, soldering etc.) special care must be taken in order to prevent fire.

1.2 Electrical circuit

When work is carried out on the heat pump, the main supply must be disconnected. (Pull the plug)
When the unit is connected to the supply all local and national regulations must be followed, along with the demands from the power supplier.

1.3 Water circuit

Only water in drinking quality may be used. During installation the choice of material must be taken into account, and made sure those are compatible in the entire circuit. Safety equipment must be installed to prevent over pressure in the system.

All pipe work must comply with water safety regulations.

2. Installation

2.1 Deliverance

Heat pump including controller
Installation manual with technical data
User manual for controller

2.2 Transport

Transport and storage of heat pump
In general the heat pump must be stored upright without water and in its packing while stored.
When carefully transporting the unit over short distances, the heat pump may be tilted up to 45 degrees.
Transport and storing may take place at temperatures between -20 C° and +70 C°.

Transport with pallet truck
For transport with pallet truck the heat pump must be places upright on the transport frame.
Lifting must be done slowly. Due to the high position of the centre of gravity the heat pump must be secured against tipping over during transportation.

Transport with trolley
The heat pump must be secured against sliding on the trolley. Water connections may not be used for transportation purposes. Make sure the trolley does not damage the cabinet and connections.

2.3 Installing

Guidelines for installing the heat pump:
The heat pump may only be installed in an frost free environment.

The installation location should comply with the following criteria:
Room temperature between +8 C° and +35 C° for running on extract air.
Room temperature between -20 C° and +35 C° for running on fresh air.
Well insulated walls to rooms next to the installation location.
Drain for condensate water.
No abnormal dust concentration in the air.
Solid base (approx. 500 kg)

To achieve a problem free function of the heat pump, and to allow access to repairs and services, it is advised to keep 0,5 m free space on each side of the unit.
Remove the packaging from the unit.
Remove the corner protectors.
Take off the transportation brackets on the frame.
Take the heat pump off the frame and place it on the desired location.
Adjust the heat pump to vertical position by adjusting the feet.

2.4 Connection of water pipes.

During installation the actual pressure and pressure losses must be taken into account regarding pipe dimensions to assure sufficient pressure and water flow rates.

The plumbing must be carried out according to regulations.

The piping can be made of flexible or solid materials. Care must be taken in respect to corrosion to avoid damages.

As for all pressurerized containers the heat pump must also be equipped with safety and check valves on the supply side.

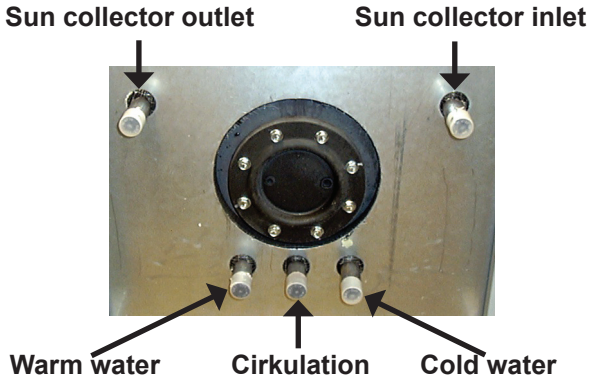
Cold water inlet and hot water outlet is located under the tank (3/4” Thread connectors).
The maximum working pressure is 10 bars, and the maximum working temperature is 65 C°.

If necessary, the supply pipe must be equipped with a pressure reduction valve and eventually a filter.

When installing the pipe work in the house any dirt in the pipes must be avoided. (Eventually flush the pipes with clean water before the heat pump is installed)!

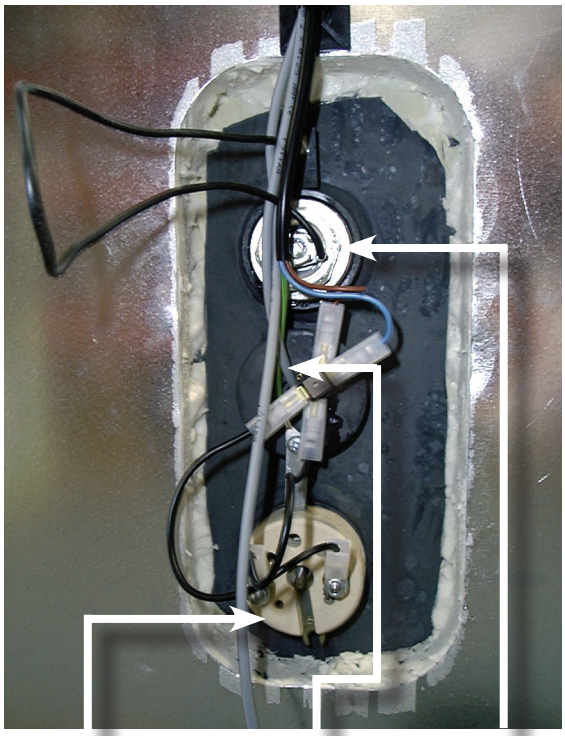
When the pipes are connected make sure the pipes are not twisted. Use tools to hold the pipes against twisting!

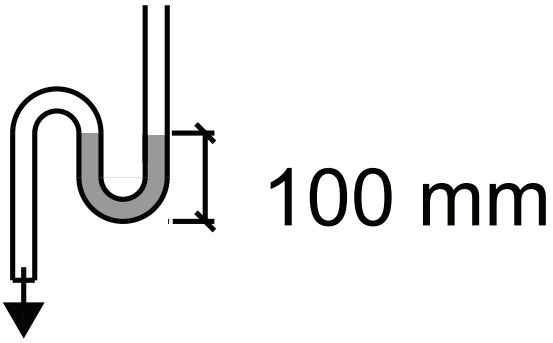
If no recirculation is needed make sure the recirculation connector is closed!

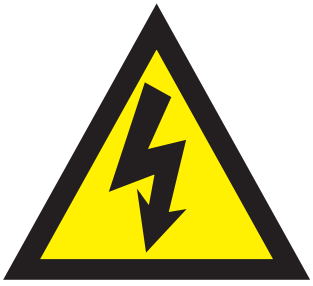


Water connection
Under the heat pump the connections are located:
Condenswater drain hose
Cold water inlet / Recirculation / Hot water outlet

No holes may be drilled. It cut damage the winded condenser







Possible connection af heat exchanger

In the heat boiler (S-model) the can be a heat exchanger of 0,8 m2 installed, which is enamelled outside. The connection is in ¾" RG. In the sensor pipe for the thermostat sensor there can also be placed a sensor to control the external connection fx a solar cells, wood burner etc. The sensor can max. have a diameter on 6 mm.

By installation of the tube system in the residence please do not soil. (Rinse through the tube system with clean water before connecting to the heat pump)!

By installation of the tubes please assure that the tube connection is not wrung. Use proper tools.

If the recirculation is not use it must be assured the recirculation boss is fastened.

2.5 Connecting condense water drain

Due to cooling of the air passing through the evaporator coil water will condense. The condense water drain is equipped with a hose which will lead the water to a drain. Depending of the humidity and temperatures 0,5 l/h of water is not unusual.

It is necessary to install a tight siphon with a minimum height of 60 mm., to allow the water to flow away from the heat pump. If the heat pump is not installed with such siphon, the water can not leave the drain tray because of under pressure, and damage to the unit and the house may be the result. Also air will be sucked through the drain, and as this air may contain ammonia and other aggressive components the cooling system will be damaged. The connection between the condense water tray and the siphon must be air tight. If the siphon is not installed correctly, the warranty will not cover damages!

2.6 Air connections

Inlet air
The inlet air may not be polluted with aggressive components! (Ammonia, sulphur, chlorine etc.)
Parts in the system may be damaged.

Air connectors
Inlet and outlet ducts must be made of smooth pipes to minimize pressure losses. Consider the fan working pressure and the duct resistance during installation. (See technical data).
It is advised to install the air ducts that are placed near the heating pump, levelled or with a light fall towards the extract air outlet to avoid leaking of condensed water, easy to cut of. This will avoid leaking of condensed water from the ducts.
When air ducts are placed outside the building the back

pressure valve (with a small resistance) should be placed to ensure no cold air is entering the room in the winter time and when the heating pump is standing still.
We recommend to mount a flexible connecting link between the pipe and the duct connection, in consideration of a future service.

The heating pump may only be used with the tank filled up!

The unit must always be disconnected from the power before the front door is removed. When the unit is disconnected from the power please wait until the fan has stopped before opening the front doors!

Before starting up the unit please ensure that all cables and electric plugs are connected correctly and the cable and plug between the display in the door and the circuit board are connected!

It is advised to insulate all ducts to lower heat loss and to lower the noise level.

3. Starting the heat pump

The heat pump may only be started with a full water tank!
The unit must always be disconnected from the power supply when the front cover is opened!
When the unit is disconnected, wait for the fan to stop completely before the cover is opened!
Before starting the unit makes sure all connectors are in place, and make sure the cable between display and controller is mounted correctly!

3.1 Demands to the hot water circuit

In the hot water system the following materials may be used:

- Copper
- Stainless steel
- Brass
- Plastics

Depending on the used materials in the water circuit (in the house) wrong combinations of materials may lead to corrosion damages. Special attention is required when using galvanized steel or aluminium materials.

3.2 Starting to use of the water circuit

- Fill the tank using the valve on the supply line, and let the air out through one of the upper hot tap water valves until air no longer is present in the tapped water.
- Check the entire water circuit for tightness.
- Connect the heat pump to the power supply.

After starting to use the system the entire water circuit must be checked for tightness.

Cooling circuit
The heat pump is delivered ready to use. No work is needed on the refrigerant circuit. The controller automatically takes over all functions and makes sure the compressor, fans etc. is started to maintain the set water temperature.

3.3 Heat exchanger operation

1) Boiler
Heat exchanger operation is used if it is desired to heat the water by using an external boiler during wintertime (oil burner etc.).
The heat pump is then set to step 0 to disable its operation. Hereafter the oil burner takes over operation using its thermostat to decide when to heat the water.
In this operation mode an extra thermostat sensor is needed in the tank to operate the burner. The maximum water temperature must be limited to 80 C°. Exceeding this temperature shortly is allowed in connection to removal of germs and bacteria etc.

If the burner has to operate as an extra heat source for the heat pump the temperature on the burner operation should be set 5K lower than the temperature setting in the heat pump. This means the burner will only assist when more water is used than the heat pump can cover.

When the system is started make sure the settings of the thermostats are as desired.

2) Wood burner or solar collector
This connection can be used if a wood burner or a solar collector shall assist the heat pump function. Sensor T9 (se diagram) measures the temperature in the wood burner or in the solar collector. If the temperature is higher than in the tank, the controller can activate a circulation pump which will circulate the water through the heat exchanger build into the tank. The hystereses can be adjusted between 0-5 K. The maximum temperature accessible is 80 C°, in which case the controller stops the pump to avoid damages to the system.

3.4 Hints to energy savings

Do not use higher water temperatures than needed. The lower the water temperature the better the efficiency of the heat pump is achieved. Use only high temperatures when needed.

3.5 Hints to fan operation

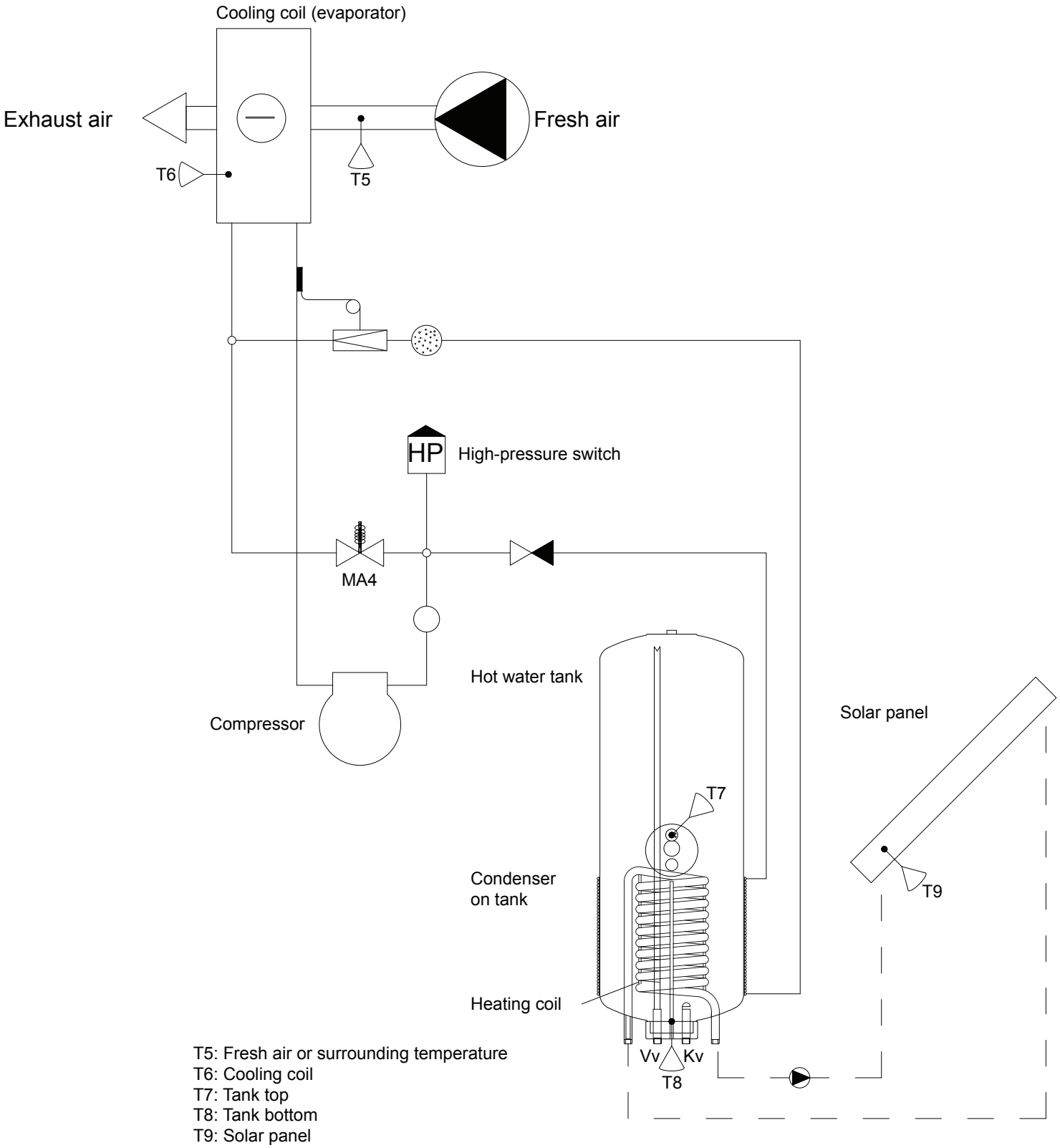
When using ductwork it may be necessary to run the fan on a higher speed to compensate for the pressure losses.

3.6 Checking

After completing installation it is advised to check all connections etc. to ensure they are tight and to check that condensate water can flow to the drain unrestricted.

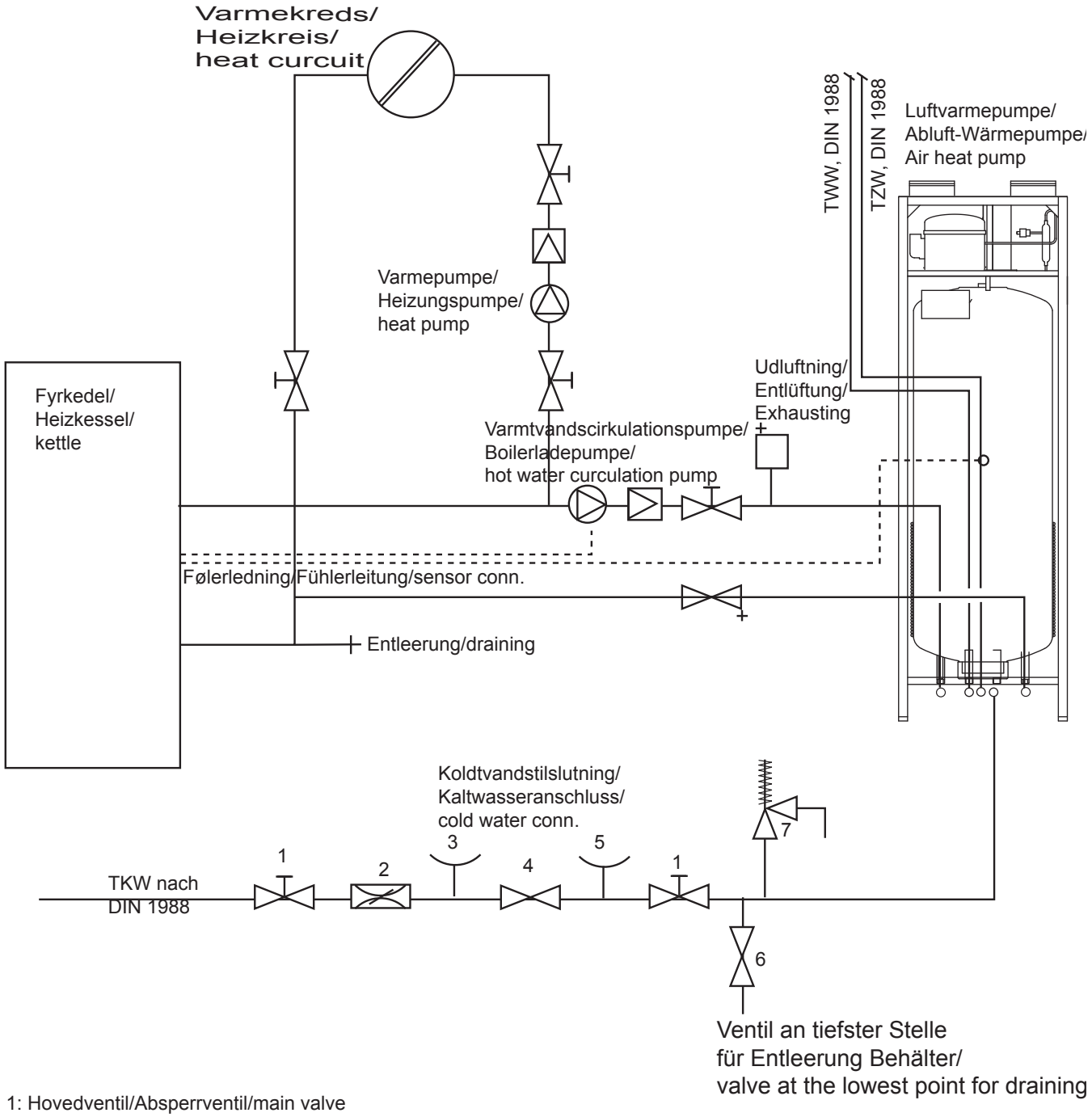
For servicing please refer to user manual.

Flow diagram



T5: Fresh air or surrounding temperature
T6: Cooling coil
T7: Tank top
T8: Tank bottom
T9: Solar panel

Hydraulic figure

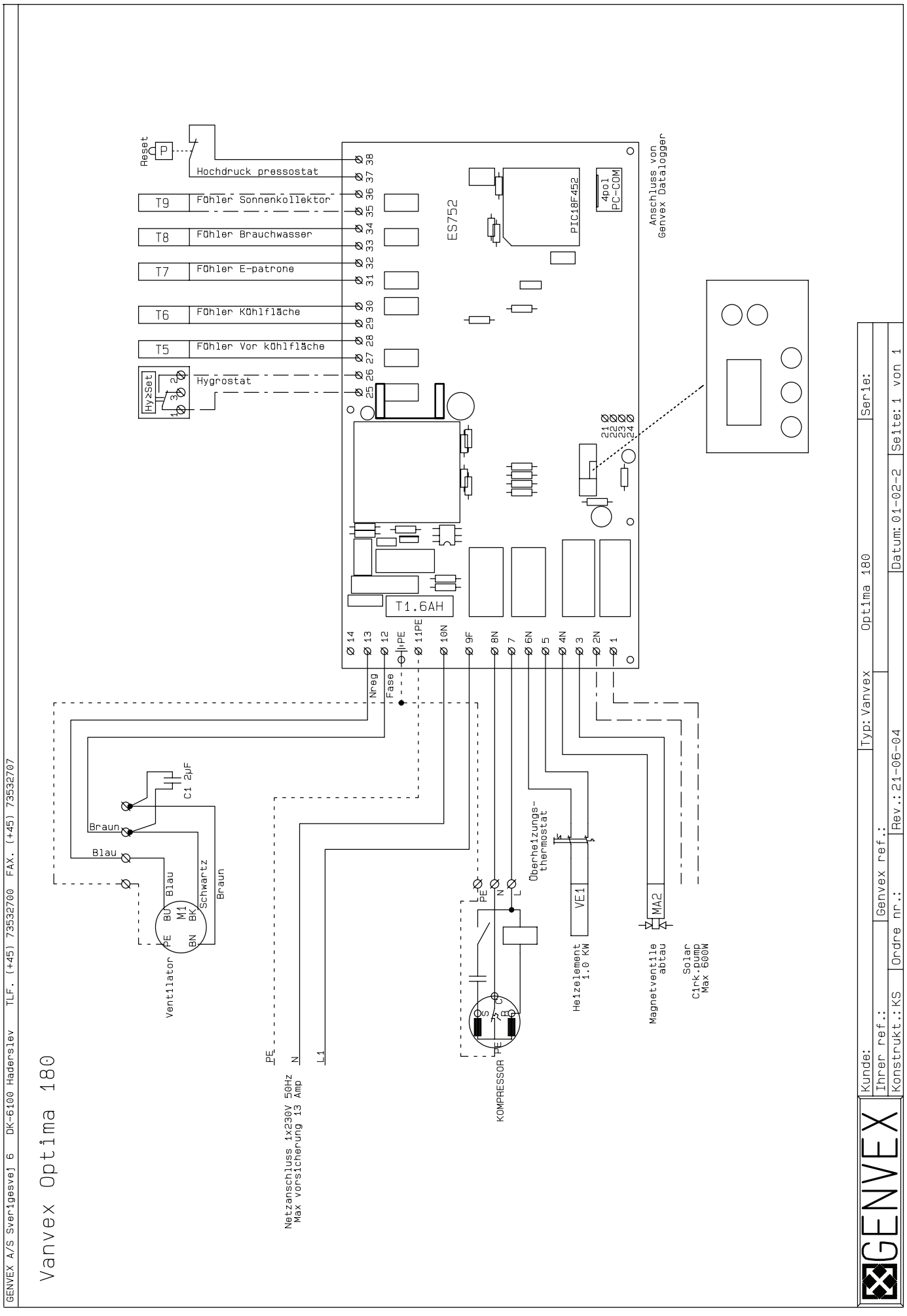


1: Hovedventil/Absperrventil/main valve
2: Trykreduktionsventil/Druckminderventil/reduction valve
3: Prøveventil/Prüfventil/testvalve
4: Kontraventil/Rückflussverhinderer/contra valve
5: Manometer tilslutningsstuds/Manometeranschlussstutzen/manometer adapter
6: Aftapningsventil/Entleerungsventil/draining valve
7: Sikkerhedsventil/Membran Sicherheitsventil, Abblasedruck 6,0 bar/safety valve

Trinkwasserfilter gem. DIN 1988 in Hausanschlussleitung /drinking water filter (DIN 1988) in house service connexion

Please assure if you assemble your heat pump with a heating-boiler or a solid fuel kettle the maximum temperature of the sanitary hot water does not transgress 65°C and the pressure in the accessory heat exchanger is not more than 3 bar!

Electrical diagram



Genvex

CE

EF - Overenstemmelseserklæring
EEC - Declaration of conformity
EG - Konformitätserklärung

A. Fabrikant:
Manufacturer:
Hersteller:

Genvex A/S
Sverigesvej 6
DK-6100 Haderslev
Tlf.: +45 / 73 53 27 00
Fax: +45 / 73 53 27 07
e-mail: salg@genvex.dk
web: www.genvex.dk

erklærer hermed, at følgende produkt/hereby certifies that the following product/bestätigt, dab das nachfolgend bezeichnete Gerät:

B. Benævnelse:
Type:
Typ:

Vanvex – brugsvandsvarmepumpe
Vanvex – sanitary water heat pump
Vanvex – Brauchwarmwasser-Wärmepumpe

C. Serie Nr.:
Serial number:
Bestell-Nr.:

012994, 012991, 012995 & 012990

ved forudsætning af at Genvex's montageanvisninger er fulgt / on the assumption that the mounting instructions from Genvex have been followed / bei Voraussetzung dass die Montageanweisungen von Genvex gefolgt wurden

er fremstillet i overensstemmelse med / is made according to /
über Einstimmung von nachfolgend bezeichnete EG-Sicherheitsstandards hergestellt:

a) Rådets direktiv 98/37/EØF af 22. juni 1998 (Maskindirektivet). AT-bekendtgørelse nr. 831 af 27. november 1998.
EU-Directive 98/37/EF
EG-Maschinenrichtlinie 98/37/EWG
b) Rådets direktiv 73/23/EØF (Lavspændingsdirektivet) af 19. februar 1973 med senere ændringer. Boligministeriets bekendtgørelse nr. 797 af 30. august 1994
EU-Directive 73/23/EF
EG-Niederspannungrichtlinie 73/23/EWG
c) Rådets direktiv 89/336/EØF (EMC-Direktivet) af 3. maj 1989 med senere ændringer. Telestyrelsens EMC-bekendtgørelse nr. 796 af 5. december 1991 med efterfølgende ændringer.
EU-Directive 89/336/EF
EG-EMV-Richtlinie 89/336/EWG
d) Rådets direktiv 97/23 EØF (Trykudstyrsdirektiv) af 29. maj 1997 med senere ændringer. AT-bekendtgørelse 743 af 29. november 1999
EU-Directive 97/23/EF
EG- Druckgeräteverordnung 97/23/EF

Virksomhed: Company: Firma:	Sted og dato: Place and date: Ort und Datum:	Underskrift: Signature: Unterschrift:
Genvex A/S Sverigesvej 6 DK-6100 Haderslev	Haderslev, 4/2-08	Kim Kjehr Kim Kjehr

(Teknisk chef)
(Technical Manager)
(Technische Leiter)

Genvex World Wide:

Denmark
Genvex A/S
DK - 6100 Haderslev
Tel.: +45 73 53 27 00
Fax: +45 73 53 27 07
E-Mail: salg@genvex.dk

Norwegian
Varmeteknikk Norge
N - 2240 Magnor
Tel.: +47 62 83 21 50
Fax: +47 62 83 21 59
E-Mail: post@varmeteknikknorge.no

Germany
Novelan GmbH
D-95359 Kasendorf
Tel.: +49 (0) 92 28 / 99 60 7-0
Fax: +49 (0) 92 28 / 99 60 7-189
E-Mail: info@novelan.de

Belgium
Artiklima bvba
B - 9220 Hamme
Tel.: +32 (0) 52 41 25 41
Fax: +32 (0) 52 41 29 66
E-Mail: info@artiklima.be

Great Britain
Total Home Environment Ltd
GB- Moreton in Marsh, GL 56 0JQ
Tel.: +44 (0) 845 260 0123
Fax: +44 (0) 1608 652490
E-Mail: genvex@totalhome.co.uk

Ireland / N.I.
ECO Systems Ireland Ltd
Co. Antrim BT54 6PH
Tel.: (UK 028) (ROI 048) +44 2076 8708
Fax: (UK 028) (ROI 048) +44 2076 9781
E-Mail: info@ecosystemsireland.com

Schwitzerland
Wesco AG
CH-5430 Wettingen
Tel.: +41 (0) 56 438 11 11
Fax: +41 (0) 56 438 12 10
E-Mail: comfort@wesco.ch

Austria
J.Pichler Lufttechnik GmbH
A-9021 Klagenfurt
Tel.: +43 (0) 463 / 3 27 69
Fax: +43 (0) 463 / 3 75 48
E-Mail: office@pichlerluft.at

Slovenia
Pichler & CO d.o.o.
2000 Maribor
Tel.: +386/ (0) 2/460 13 50
Fax: +386/ (0) 2/460 13 55
E-Mail: pichler@pichler-co.si

Croatia
Pichler & CO d.o.o.
10000 Zagreb
Tel.: + 385/ (0) 1/ 65 45 407
Fax: + 385/ (0) 1/ 65 45 409
E-Mail: pichler@zg.hnet.hr

Portugal
Iberterm
PT-4475-493 Nogueira Maia
Tel: +351 229 065 123/4
Fax: +351 229 065 125
E-Mail: paulo.neto@iberterm.com
Web: www.iberterm.com

Intelligent ventilation system from Genvex

As ventilation specialists, we offer a product range that covers all aspects of modern ventilation equipment, from passive ventilation units with highly effective counter current exchangers to units with integrated heat pumps that are extremely power efficient for heating or cooling. We can also provide units for ceiling mounting for installation in existing office buildings, high-rise buildings and industrial buildings.

Presented by:

Published by Genvex A/S, Sverigesvej 6, DK-6100 Haderslev

Genvex®

www.genvex.dk